Stakeholder Perceptions of the Fish and Vegetable Value Chains in Nigeria

Executive Summary

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Agrifood value chains (AVCs) in Nigeria have expanded rapidly in recent decades. This process has been driven, in part, by enormous aggregate investment on the part of the many micro, small, and medium enterprises (MSMEs) that operate all along the AVCs (Reardon et al. 2019). These include producers, input suppliers, transporters, aggregators, processors, wholesalers, and vendors, among others. While these MSMEs together form the backbone of Nigeria's food system, they face significant challenges that impede their operations, growth, and productivity. These challenges span the micro level, such as limited technical capacity of MSME owners/managers and limited access to finance (Liverpool-Tasie et al. 2020); the meso level, such as poor organization and management of markets or clusters, congestion, security challenges, and limited access to water, cold storage, and other amenities (Reardon et al. 2021); and the macro level, such as poor road and rail infrastructure or limited supply of electricity that significantly increase the costs of operation, as well as policies that make it difficult for MSMEs to be established or formalized (e.g., multiple taxation, bureaucratic and unclear processes). Macro challenges also include the weak regulatory framework used to oversee and monitor the operations of many of Africa's food systems (Liverpool-Tasie et al. 2020; Liverpool-Tasie et al. 2021). Together, these micro, meso, and macro factors can significantly shape the incentives of MSMEs and affect their ability to provide affordable, safe, and nutritious foods to consumers.

The RSM2SNF[1] project focuses on the value chains of three particularly nutritious and locally relevant foods, namely fish, tomato, and green leafy vegetables (GLVs). These value chains have grown rapidly in many African countries in response to changing consumption patterns associated with urbanization and rising incomes. This is because, as incomes increase, the share of the food budget dedicated to non-staples rises disproportionately (Bennett 1941). Fish is among the most important animal-sourced foods in Africa and is crucial in combatting malnutrition, particularly among low-income consumers (Chan et al. 2019; Desiere et al. 2018; Headey et al. 2018; Liverpool-Tasie et al. 2021). According to the Nigeria General Household Survey 2018/19, 81% of Nigerian households (and 73% of poor households) consume fish. Households allocate an average of 5.2% of their total food budget to fish, and an average of 52% of the value of animal products consumed is in the form of fish. Studies also indicate a rise in the shares of fruits and vegetables in national consumption of sub-Saharan African countries (Smale et al. 2021). Nearly all households (99.3%) in Nigeria consume some vegetables, with an average of 6.7% of the total food budget allocated to vegetables. Tomatoes and green leafy vegetables (GLVs) are consumed in 88% and 48% of households, respectively.

[1] RSM2SNF stands for "Research Supporting Micro, Small, and Medium Scale Enterprises to Provide Affordable, Safe, and Nutritious Foods."

Tomatoes and GLVs comprise, on average, 8.3% and 29.9% of the value of vegetable products consumed in Nigerian households.

Table 1. Stakeholder groups represented in the sample (number of respondents)

	North	South	Total
Civil society organization	3	1	4
Donor/Development partner	7	1	8
Farmer	27	19	46
Government (Federal level)	9	3	12
Government (State level)	2	9	11
Industry/Private sector	25	20	45
Other	3	2	5
Research/Academia	33	36	69
Total	109	91	200

As demand for non-staple foods expands, it is important to understand the configuration of their food supply chains; the incentives for MSMEs to supply affordable, safe, and nutritious food; and the implications for the food and nutrition security of consumers. In addition, literature documents that perceptions are often a precondition for behavioral change (Deressa et al., 2011; Kilders et al. 2021; Khanal et al., 2018; Maddison, 2007; Odeyemi et al. 2019). Thus, understanding the perceptions of value chain actors will shed light on likely strategies that could prompt behavioral changes to increase the availability of affordable, safe, and nutritious foods. In this regard, the RSM2SNF project administered a survey to capture stakeholder perceptions of the most pressing challenges faced by MSMEs in the fish and vegetables value chains in Nigeria. This summary presents an overview of the research methods and results of this survey. A full report of the study is also available.

Data and Methods

The survey of stakeholder perceptions was administered to agrifood stakeholders in Nigeria between May and July 2022. The survey questionnaire captured basic information on the respondents and the organizations they represent; general perceptions of the food system with a focus on the fish and vegetable value chains; and awareness and perceptions of related legislation and government-led activities. Emphasis was placed on challenges related to affordability and food safety in the fish and vegetable value chains and potential avenues to address these challenges. The survey was mostly administered online, although a small number (34) of respondents completed a paper version of the survey, and a small number (27) completed the survey verbally over the phone. This was to accommodate respondents who were not literate or comfortable using digital technology. Surveys that were initiated but not completed are not considered in this report.

Three approaches were followed to identify respondents. First, all stakeholders who attended the launch of the RSM2SNF project, which took place on May 19, 2022 in Ibadan, Nigeria, were invited to participate in the survey. These included representatives of research/academia, industry, production, government, civil society, and development partners. While some respondents completed the survey during the launch event, most participated online over subsequent weeks. Seventy-two percent (72%) of the attendees participated in the survey.

Second, a database of agrifood stakeholders in Nigeria was compiled based on online research and the networks developed by RSM2SNF researchers in past projects on food systems transformation. Invitations to participate in the survey were extended to the stakeholders in this database. Third, invitations were extended widely among the professional and personal networks of those affiliated with the RSM2SNF project, especially the members of the project's National Advisory Committee. An effort was made to ensure geographic representation from both the north and south of Nigeria, as well as representation across different food products (e.g., fish, tomatoes and GLVs) and a wide set of stakeholder groups (e.g., government representatives from both state and federal levels; representation of aquaculture as well as capture fisheries). It is important to acknowledge that the sample of agrifood stakeholders constructed through these methods of outreach is not necessarily representative of the universe of agrifood stakeholders in Nigeria.

The final sample included 200 respondents, with 45.5% from Southern Nigeria and 54.5% from Northern Nigeria (Table 1).[2] About one third (34.5%) of respondents were representatives of research/academia, 23% were farmers, 22.5% were representatives of industry/the private sector, 11% were representatives of government, and 6% were representatives of civil society or development partners.

A best-worst scaling approach to eliciting preferences was used at several points in the survey, allowing for priorities to be captured in both an ordinal and cardinal manner. For these questions, respondents were asked to consider a list of options and select their most preferred options (or the items they consider to be most important) and also their least preferred options (or the items they consider to be least important). Details of the quantitative analysis are found in the full report.

Key Findings

Eight key points stand out from the analysis. First, respondents judged the availability and affordability of vegetables to be greater than the availability and affordability of fish. The affordability of fish was viewed as lower in the poorer north, where 55% of respondents considered fish affordability to be "poor" or "very poor", than the relatively more affluent south, where this value was 40%. This highlights a need for region-specific efforts to increase access to nutritious foods.

Second, there seems to be a clear preference for efforts to bring down food prices rather than improve food safety. Respondents prioritized government efforts aimed at affordability and de-emphasized efforts aimed at monitoring of food system actors and the provision of hygiene-related infrastructure. This likely reflects the stress felt by consumers who are worried that they cannot even access affordable nutritious foods, with food safety seemingly deemed a lower-order concern. It also implies that greater sensitization may be needed around the importance of food safety and hygiene, which are pressing concerns in Nigeria.

Third, for both fish and vegetables, the high cost of inputs for production was regarded as the greatest challenge for affordability, and a lack of food safety knowledge was seen as the greatest challenge for safety. While this alignment across the two products may point to some synergies in programs or investments (e.g., the need for training or

[2] States in the north include Borno, Yobe, Bauchi, Gombe, Adamawa, Taraba, Sokoto, Kebbi, Zamfara, Kaduna, Katsina, Kano, Jigawa, Niger, Kwara, Kogi, FCT Abuja, Nasarawa, Benue, and Plateau. States in the south include Oyo, Ogun, Ekiti, Ondo, Osun, Lagos, Enugu, Anambra, Ebonyi, Imo, Abia, Edo, Delta, Bayelsa, Rivers, Akwa Ibom, and Cross River.

improved infrastructure), any intervention such as research/training would still need to be product-specific.

Fourth, there is a dominant focus on the high cost of inputs and a lesser focus on post-production challenges (e.g., post-production food losses). While this may indicate that the most important drivers of affordability are at the production stage, it may also reflect path dependency in thinking about the food system, since government programming in Nigeria has historically given more attention to producers than to other nodes of the value chain. Additional research is needed to understand whether this strong perception is an accurate view of the drivers of food affordability in Nigeria.

Fifth, women and men play distinct roles in the value chains for fish and vegetables. Men were viewed as more engaged in the provision of inputs for production (for both fish and vegetables) and in the production of fish, while women were viewed as more engaged in the processing, trading, and retailing of both fish and vegetables. Female respondents were somewhat more likely to view women as more engaged than men in the retailing of fish and vegetables and the production of vegetables. Overall, these highly gendered patterns indicate that any intervention to improve these value chains—from the provision of inputs for production all the way to consumption—requires gender-specific considerations and would necessarily have gendered impacts.

Sixth, we find important differences across the perspectives of representatives of the federal government and other stakeholders. For example, while federal government representatives were least likely to view the high cost of inputs as a challenge to the affordability of fish, this was the major challenge noted by all other stakeholder groups. Similarly, while federal government representatives viewed the availability or high cost of electricity as a meaningful challenge, all other stakeholder groups were neutral about this challenge or considered it among the least serious concerns. While state government representatives were most likely to fault weaknesses in the legislation and guidelines for street vending as a key challenge (for food safety for fish), federal level respondents considered a lack of guidelines to be the least serious concern. This gap between the federal government and others may point to a disconnect between those who make policy and those who play a more direct role in the implementation of those policies.

Seventh, we find other differences in priorities among different stakeholder groups. While infrastructure-based efforts to reduce food loss/waste, such as cold storage facilities, were highly prioritized by the full sample, representatives of industry were less likely than most or all other groups to prioritize such a program. They rather prioritized infrastructure improvements to reduce transportation costs, particularly for vegetables. This divergence in perspectives highlights a need to gather accurate and complete information on the drivers of food costs for the different value chains to best determine where public dollars should be allocated.

Eighth, different stakeholder groups expressed different experiences of inclusion. Farmers and representatives of industry (and respondents from the north) were least likely to feel that their voices were heard by government. While they tended to perceive that a dialogue was indeed occurring, they viewed themselves as marginalized in this conversation. This likely has bearing both for the suitability/effectiveness of policies and for the level of buy-in on the part of stakeholders.

These insights will inform the activities of the RSM2SNF project, which aims to build knowledge and capacity around how MSMEs in the Nigerian food system can be supported to provide affordable, safe, and nutritious foods. The agrifood system in Nigeria is growing rapidly and is in the process of a "quiet revolution" by MSMEs. As a large majority of respondents provided permission to be re-contacted, a second stakeholder perceptions survey will be conducted in several years to update this analysis.

Conclusion

Results of the RSM2SNF stakeholder perceptions survey paint a detailed picture of the fish and vegetable value chains in Nigeria. Several examples of practical implications for the RSM2SNF project are enumerated below.

1. The survey revealed a clear preference for government efforts to bring down food prices rather than improve food safety. Nevertheless, food safety and hygiene are pressing concerns in Nigeria. This indicates that greater sensitization may be needed around the importance of food safety and hygiene; RSM2SNF will work to provide this sensitization and convey the implications of poor food safety for health and productivity.

2. There is a dominant perception that the high cost of inputs and equipment is a major challenge for food affordability in Nigeria, while less concern is directed toward post-production food losses. This finding was surprising. Additional research is needed to understand whether this perception is an accurate view of the cost build-up along value chains. RSM2SNF will pursue this research in order to identify the most important drivers of affordability for fish and vegetables.

3. Women and men play distinct roles in the value chains for fish and vegetables. These highly gendered patterns indicate that any intervention to improve these value chains would necessarily have gendered impacts. Gender-specific issues will be given attention in all RSM2SNF project activities, and the project is committed to learning about the gender dimensions of potential interventions.

4. Perceptions of government representatives at the federal level often differ from those of other stakeholder groups. These findings indicate that value may come from additional interaction among federal and state government representatives to improve the links between policy formulation and implementation. RSM2SNF plans to facilitate such interaction in stakeholder meetings.

5. The survey results point to limited familiarity with agriculture and food system policies in Nigeria. Less than 25% of respondents were "very familiar" with any policy. This suggests that efforts to increase citizen awareness of government policies (and the potential opportunities and/or implications of these policies) may be welcome. RSM2SNF will prepare communication pieces aimed at raising awareness of food safety issues and associated regulations, as well as issues related to the MSME Policy.

6. The affordability of fish was viewed as lower in the poorer north than the relatively more affluent south. This highlights a need for region-specific efforts to increase

access to nutritious foods. RSM2SNF will carry out separate but related studies in the north and south to understand the different factors that account for diverging assessments of affordability.

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